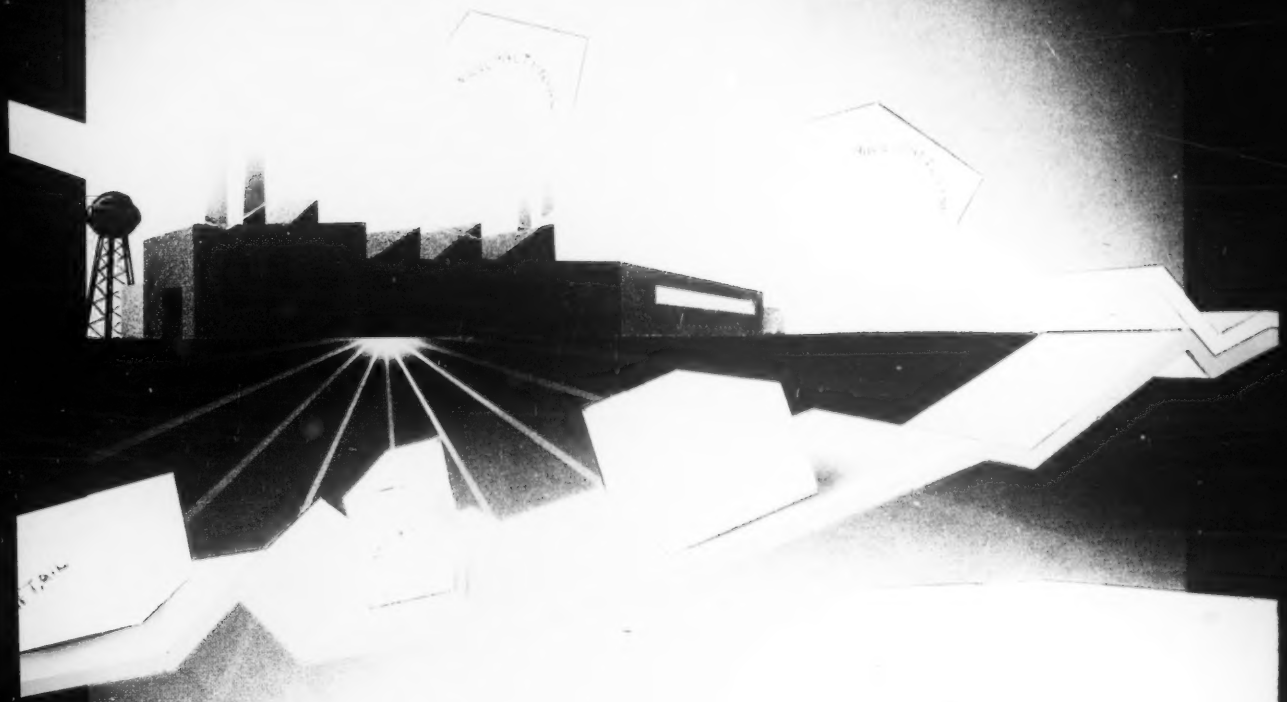
PurchasingWorld®
THE BUYER'S MAGAZINE
AUGUST 1990

INVENTORY



Converging I/S ratios signal warning

CONTENTS

August 1990, Vol. 34, No. 8

COVER STORY

21 Are inventories as good as they say?

While manufacturing's inventories are excellent, converging inventory-to-sales ratios between manufacturing and retail are sending warning signals to buyers and the system overall.

IP offers creative solutions to packaging dilemmas. Page 38

FEATURES

34 Specialty steels compete on performance, price

Stainless steel and specialty alloys continue to meet more demanding requirements of metals buyers.

38 IP offers creative partnership

Innovation is the key to new package designs at International Paper's recently expanded research center.

Software programs make buyers' jobs easier. Page 25

FEATURES

25 Software pleases purchasing pros

Buyers say the latest software packages are making their jobs easier and can be implemented with relative ease. Also in this report is a listing of available purchasing software packages.

42 Ideal system saves space, time

Proper storage of small parts and tools can add up to big savings in productivity and space. Learn ten steps to a better storage system buy.

49 Pumps get "new and improved"

Competition is forcing pump manufacturers to make products that are quieter and more efficient.

DEPARTMENTS

3 PW Pointers

4 Editorial

6 Inside purchasing
Company blames supplier.

7 PW Predicts
A look at chemicals, special alloys and the apparel industry.

12 Business datatrak
PW's economist tracks metals, prices and regional trends.

56 Negotiations
DeRose claims there's nothing new under the sun.

57 Transportation
New policy needs a road map.

59 Buying for the office
Suggestions for better office furniture selection.

60 New products

64 New literature

65 Advertisers' index

66 Classified

68 Purchasing and the law
Did I make a contract?

PurchasingWorld

Toward improving minority purchasing

A purchasing video titled "Doors to Opportunity" has been released by the National Minority Business Directories (NMBD). The 20-minute video outlines the benefits of a strong minority purchasing program and offers practical tips on how to make it successful. The video complements the TRY US directory, linking purchasing people with minority-owned firms. *NMBD, 2105 Central Ave., NE, Minneapolis, MN 55418 FAX 612/781-0109* **Circle 93**

"You know what I mean?"

Wasted effort, poor morale and lost business can be the result of poor communication. A video by Rank Roundtable Training, Beverly Hills, CA, titled "You Know What I Mean?" helps eliminate these problems by identifying key skills for successful communication. The video highlights the need to pay attention to both non-verbal and verbal signals and emphasizes that everybody is responsible for sending and receiving clear messages. Package includes video, discussion leader's guide and discussion tape and costs $35 for preview; $155 for three-day rental, or $675 for purchase. *Rank Roundtable Training, 113 N. San Vicente Blvd., Beverly Hills, CA 90211* **Circle 94**

Solid waste issues and answers

A 14-page booklet addresses some commonly asked questions about the solid waste issue regarding plastic packaging, the solid waste stream and the environment. "Solid Waste Issues and Answers" also discusses source reduction, recycling, composting, incineration and landfills. *Sonoco Products Co., North Second St., Hartsville, SC 29550* **Circle 96**

Survey says...

A just-completed nationwide survey shows that executives consider engineers and accountants the most ethical professionals—garnering 58% of the replies. Investment bankers finished last with 1%.

Lift truck training increases productivity

As productivity is dependent on the efficient movement of materials, the lift truck has become a key component in a company's overall success. Research by the National Institute of Occupational Safety and Health (NIOSH) showed training can improve lift truck operator performance by about 70%. The Hyster Company offers training which includes basic truck operation, precautionary measures traveling, proper load handling and stacking procedures and basic maintenance. *Hyster Company, P.O. Box 847, Danville, IL 61834, Phone 800/221-1191*
Circle 95

Recycled office paper saves energy, trees

Conservatree Paper Company says that every ton of recycled paper saves 17 trees, enough energy to power the average home for six months, and 7,000 gallons of water. It also keeps about 60 pounds of pollution effluents out of the air. "Your Practical Guide to the Environmentally Responsible Office" offers a convenient way for you to save thousands of trees, energy and water by buying recycled goods. The guide gives business owners and purchasing managers practical tips on how to buy products made from recycled paper, including a buyer's directory of recycled paper suppliers. *Services Marketing Group, 8 South Michigan Ave., #2500, Chicago, IL 60603*
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USPS472-470
ISSN0093-1659

ABP

PurchasingWorld (USPS 472-470) is published monthly by HUEBCORE Communications Inc., 29100 Aurora Road, Suite 200, Cleveland, Ohio 44139. Printed in USA. Subscriptions: PurchasingWorld, P.O. Box 1073, Skokie, IL 60076-8073. Available without charge to qualified purchasing executives in US manufacturing companies. Available to others in the US for $65/year, Canada $70/year. Foreign subscriptions are available for $120 airmail or $80 surface mail. Sole agent for all subscriptions outside the USA and Canada is J.B. Tratsart, Ltd., 154a Greenford Road, Harrow, Middlesex HA 1 3QT, England. Second class postage paid at Cleveland, OH, and additional mailing offices. Editorial and business offices: 29100 Aurora Road, Suite 200, Cleveland, Ohio 44139. Copyright 1989 by HUEBCORE Communications Inc. All rights reserved ISSN 0093 1659.

Postmaster: Send address changes to PurchasingWorld P.O. Box 1073, Skokie, IL 60076-8073

PW PREDICTS

Subduing inflation—gradually

Overall, data suggests that though the economy continues along in its slow-growth environment, no dramatic improvement has occurred, or is even expected, in inflation this year. To many, the most puzzling of economic phenomena is the persistence of inflation. Rest assured, the inflation war is going well, it just isn't going quickly.

Accounting for the stickiness of inflation is the fact that a single round of inflation assaults prices more than once. Inflation initially occurs because of an upward pressure on prices, or what economists term the demand-pull transmission process. Most often, this situation is the result of too much money chasing too few goods.

As this phase of inflation's attack retreats, a delayed price response mechanism, referred to as cost-push, begins. The cost-push scenario, in turn, goes through two cycles: the initial response to production increases and the formation of inflationary expectations.

The persistence of inflation at this point in time is due to the second phase of the cost-push cycle, which consists of the establishment of inflation expectations. These expectations impact many areas of the economic system, but their effect on wage rates is of greatest concern.

The inflation spiral began with excess demand creating a shortage in the market, forcing businesses to step up production, leading to rising input costs. But the costs of production do not respond collectively. Labor adjusts with a lag, which persists, because of changes in inflation expectations. Wage adjustment not only includes accounting for higher prices now, but for higher prices in the future as well.

Producers have little choice but to pass wage costs through into still higher prices. The stabilization of wage costs, however, brings the inflation cycle to an end, unless the Federal Reserve has provided the catalyst for another burst of excessive demand.

Thus, the pattern of adjustment runs from spending, to output, to costs, to prices, to expectations, to labor costs, and finally back to prices. The good news is that this process cannot continue unless supported by continuing increases in the money supply. Fortunately, the Fed has kept a tight grip on money since mid-1987. The brief burst in the supply of money since last summer has allowed the economy to continue its soft landing, without creating any excessive demand pressures (see DataTrak).

The Fed's monetary posture during the past three years has constrained any potentially significant advances in demand. Industrial production has plateaued and the cost of raw materials and commodities has stabilized. Data clearly shows that these factors have put a halt to accelerating inflation. Nevertheless, price pressures continue.

Inflation will continue to gradually subside, but how far is primarily up to wage costs. It appears that wage increases have yet to peak. Unemployment increases are on the horizon, however, if wages, which include both compensation and benefits, continue their relentless ascent. The burden applied by benefits will certainly impede any significant reduction in inflation, at least in the foreseeable future.

One reason why wage costs continue to provide impetus for a persistence of inflation is because recent productivity gains have been so feeble. In the past year, productivity, measured as output per hour worked, has grown less than 1%, down from the previously less than impressive levels of 1988 and 1987, which were 1.6% and 2.4%.

Higher wages must be offset either by increases in productivity or rising prices. Workers' hourly compensation and benefits have risen over 5% in the past year. During this same time, productivity has grown less than 1%. The result is that the cost of producing one unit of output has advanced nearly 4.5%, which must then be accounted for in the form of higher prices.

While overall productivity has been feeble, productivity increases in the service sector have been even worse. Nonmanufacturing productivity has risen only 0.5% over the past 12 months. With unit labor costs up over 5% during this same time, it is clear why consumer prices have come in between 4.5-5% over the past year.

What this 4.5-5% range suggests is that though inflation has been contained, an outright reduction is not yet being seen. Assuming the Federal Reserve will not aggressively increase domestic liquidity, and given there are no price shocks forthcoming which will ignite the construction biases in the price indexes, the outright reduction in inflation that everyone is looking for should begin this quarter, and continue into 1991.

By John Sheridan

Mixed trends in chemicals

Overview: First-quarter earnings in the chemical industry were below those of a year earlier, continuing the trend begun in the third quarter of 1989. Two things, however, should not be overlooked when comparing earnings between these two periods: 1) The first quarter of 1989 represented an earnings peak for the chemical industry as a whole, and, 2) considering that the sectors of the economy keeping the soft-landing soft are the key end markets for chemicals, the data could have been worse.

End markets: Automobiles and manufacturing are experiencing some rejuvenation, but housing continues to struggle. Automobile production has been stepped up, with third quarter production levels expected to be 9% above those observed in the comparable 1989 period. While the auto industry isn't as soft as it was at the conclusion of 1989 and in early 1990, sales for the year will—in the absence of unusually aggressive incentives—come in below 1989's level.

No pick-up is expected in housing starts this year, while construction overall remains sluggish. Housing starts are anticipated to be down roughly 5% from year-ago figures.

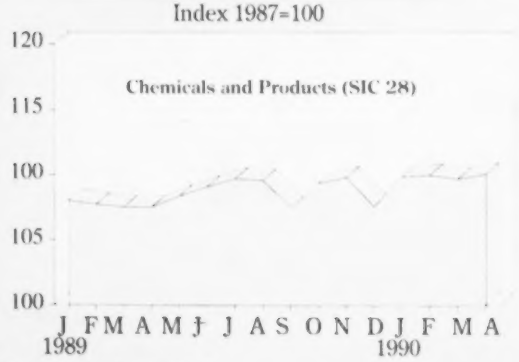
Indications are that manufacturing in general is beginning to escape stagnation. An expanding export market, along with lower energy and raw material costs, should allow this improvement in manufacturing to continue.

Prices: In general, chemical prices have stabilized, after declining for most of 1989. The producer price index for chemicals reported May prices to be 1.7% below those of a year earlier.

Outlook: Standard & Poor's economics department notes that it is likely, given lower prices and margins for ethylene and plastics, that full-year earnings will decline in 1990 for the chemical industry.

Chemical industry production

Index 1987=100



Source: Federal Reserve Board

Pesticides enjoying solid 1990

Despite an unusually wet spring in some regions, the prospects for agriculture chemical sales in 1990 appear good. As the spring planting season comes to an end, it is estimated that corn will fall slightly below its projected 74.8 million acres, while soybeans and cotton should hit their marks of 59.4 and 12.4 million acres.

The strong growth in agricultural chemicals witnessed over the past two decades has stabilized, but industry experts are looking for pesticides sales growth of 2-3% for the year overall.

Stainless scrap tags retreating

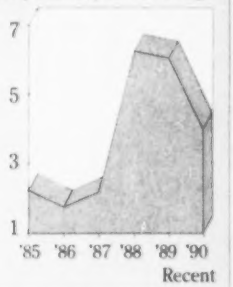
May was the second straight month of falling stainless steel scrap prices, with the bundles price ranging from $900-$930/ton. This is a 12% drop from April's number. Easing prices are expected to continue through summer, with exports down and supplies loosening.

Nickel prices remain firm

In early June, the price of nickel fell to $3.58 per pound on the London Metal Exchange (LME). Since then, prices have moved higher, not lower, as many analysts speculated. The

Nickel

($/pound)year-average



domestic merchant price ranges from $4.00-$4.25 per pound. Reported double-ordering from stainless steel producers and the wildcat strike at the French-based New Caledonia facility suggest that near-term prices could go higher. However, one industry observer noted that the Soviets may begin to increase their market shipments, which could potentially begin a downward move in price. Look for the producer realized price in 1990 to gravitate toward the $3.75-$4.00 per pound range.

HR sheet leadtimes out

Market forces are being cited as the reason mills are pushing leadtimes for hot-rolled sheet to between 8 and 16 weeks. Some leadtimes appear justifiable because of maintenance shutdowns. A number of distributors, however, said that some mills are keeping production schedules fixed, to keep delivery times extended and prices up.

Special alloys changing

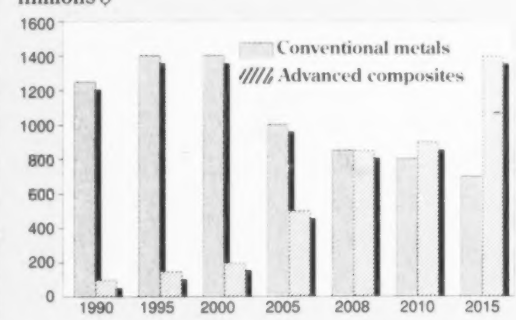
Overview: The conventional high-performance metal alloy market is quite mature, and many industry experts argue, probably correctly, that these metals have reached the upper limits of their operating envelopes. Despite the extensive effort to make them obsolete with new advanced composite materials, conventional high-performance metal alloys continue to dominate the market.

Demand: In a study recently released by Business Communications Co., Inc., (BCC) Norwalk, Connecticut, special alloys are primarily employed in five areas. Aerospace applications include airframes, engines, rockets, and spacecraft. In the petrochemical and oil patch industries, pipes, valves, joints and pumps all utilize high-performance metal alloys. Areas of industrial use include retorts and tubing, while marine applications center around impellers and shafts. Although advanced materials are exhibiting the greatest growth, the market for conventional special metals will exceed $1 billion through the turn of the century.

Supply: One factor determining the rate at which advanced materials become employed is the ability of these composites to surpass the performance of conventional special alloys in the areas of strength or stiffness, high temperature operation and corrosion resistance, at a lighter weight. The most significant factor, however, might be the fact that conventional materials will remain less costly for some time to come.

Outlook: The BCC states that though the future holds much promise for new advanced composites, they aren't likely to be the leading player in the aerospace market until well into the next century. Within the aerospace propulsion market, the cross-over in use between conventional alloys and new composite materials is forecast by the BCC to occur around 2008.

Special alloys in aerospace



Source: Business Communications Co.

Rains impact DAP prices

Spot prices for diammonium phosphate (DAP) are moving up, with domestic spots near $145/ton in tanks f.o.b. central Florida. Lean corn stocks and the wet weather which hampered planting last spring have DAP producers optimistic that next year, both fertilizer consumption and DAP prices will be up.

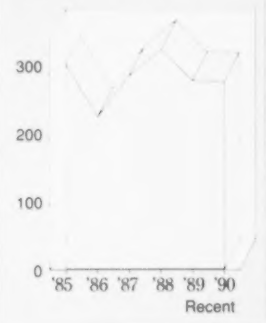
This year there may be 600-700 million fewer bushels of corn available. As a result, DAP producers feel the government won't stop farmers from planting as much as they want in 1991. It should be noted, however, that there isn't a direct correlation between an increase in planting and an increase in fertilizer demanded. Many farmers have cut back on their fertilizer rates.

Lead producers must invest

To survive the 1990s, lead producers will have to make substantial investments in smelter technology due to increasingly stringent environmental regulations, according to industry experts attending the Tenth International Lead Conference in Nice, France. Primary and secondary lead production capacity is expected to meet consumption requirements through the year 2000. While the U.S. is nearing its saturation point, Eastern Europe, South America and Asia are seen as high growth markets.

Mercury

(¢/pound) year-average



Aluminum scrap exports down

After four months, aluminum scrap exports are off 14.5% from their year-ago level. Surprisingly, exports to Canada have rocketed upward, presently showing a 94.3% increase. The dominant buyer in the export arena continues to be Japan, but their purchases are down 23% through April. The total value of aluminum scrap exported through the first four months stands at $174,890,046.

Mercury market stays calm

Traders report a quiet market, with the merchant range remaining at $280 to $290 per 76-lb. flask sold in lots of 50 or more. Demand has been calm for three months now, with the price range unchanged since mid-March. The European mercury price range has fallen slightly and is now at $200 to $210 per flask.

Apparel industry is ailing

Overview: Modest growth in the domestic market, industry maturity and increased competition from imports forced domestic manufacturers to close more than 200 older, inefficient plants in the 1980s. Moreover, the past few years have witnessed substantial consolidation, in an attempt by some firms to gain market leadership. The recent merger and acquisition activity, however, has probably come to an end, given the demise of Drexel Burnham Lambert, Inc. and the fall of junk bonds.

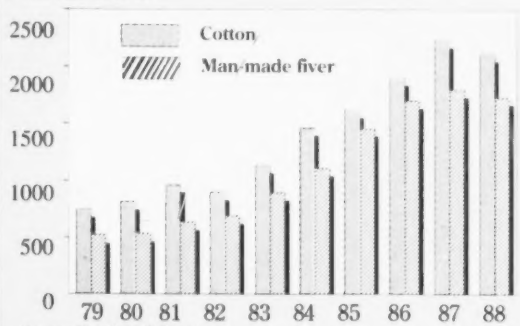
Demand: Industry sales rose 5.4% in 1989, but profits actually fell. Rising raw materials costs and interest charges resulting from consolidation and leveraged buyout activity were the primary factors behind the poor profit showing. Consumer spending, which fueled the sales spurt, centered on apparel and semidurable household furnishings. The two major textile end-markets displayed spending growth in excess of 7% last year.

Supply: Productivity has increased somewhat following extensive restructuring, including plant closings mentioned above, with the resulting lay-offs, and capital expenditure. Investment has centered on less labor-intensive machinery, allowing the industry to decrease employment 15% in the 1980s, while advancing production 24%.

The slow economy and ability of domestic manufacturers to provide shorter leadtimes for reorders should deter any acceleration in imports. As a result, growth in imports should remain flat during the remainder of 1990.

Outlook: Of all fibers used, man-made fibers account for 68%, cotton for 31% and wool for less than 1%. In 1989, cotton prices moved up over 14%, while man-made fibers advanced 6.3%. Wool prices actually fell. Researchers at Standard & Poor's anticipate mixed price movements during the remainder of 1990, with cotton prices trending higher and wool prices continuing to slide.

U.S. imports of textiles



Source: Standard & Poor's

Soda ash tags still advancing

Producers are initiating both list and off-list price hikes. Industry sources report a $5/ton increase in the list price, bringing it to $98/ton.

Analysts expect the market to absorb the price advance. Demand is strong, but even more important is the new demand coming from the pulp and paper industry, where environmental problems accompanying chlorine use are stimulating producers to increase their consumption of soda ash.

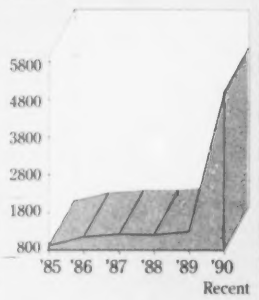
One industry source doubts if demand is the only factor behind the price rise. It is believed that the European Community will lift the import duties which U.S. exporters now face. To protect themselves against possible dumping propaganda or litigation, U.S. producers have now set a price that is comparable to the Europeans, once delivery charges have been figured in.

Rhodium soars to $6000

The extremely tight market and a frenzy of Japanese buying has provided the impetus behind rhodium topping the $6000/troy oz. barrier. Both dealer and producer inventories have run dry or are very close to it. Since rhodium is not the investment most other precious metals are, investor divesting is unlikely.

Where the market goes now is anybody's guess.

Rhodium
(cents)



Despite the fact that some of the current demand is speculative, prices should remain firm. Diverse demand from Japanese automakers and Europeans for auto catalysts remains strong, inhibiting any reduction in rhodium tags.

It appears that supply problems will persist through year end, since the Russians are the only major seller capable of impacting the market at this time. It is doubtful that the Soviets will end the market's tightness, since they have divided their annual allotment by the number of trading days in the year, offering a prespecified amount on each trading day.

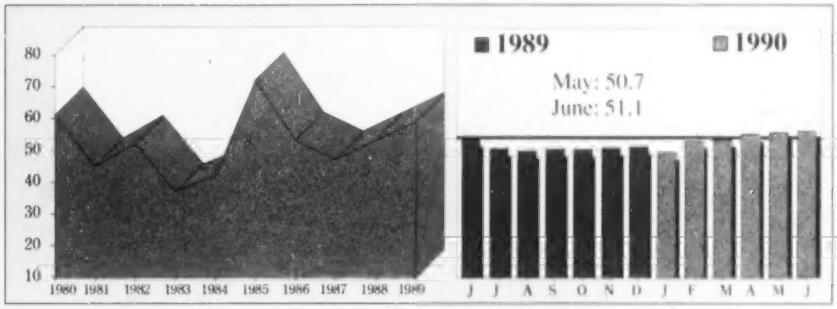
Styrene prices unlikely to ease

The expected price slide for styrene monomer, which had been predicted for the second quarter, has failed to materialize. It isn't likely to occur in the third quarter, either. Low inventories and plant shutdowns are keeping supplies tight. Spot prices remain firm, at 43-44 cts/lb f.o.b. U.S. Gulf.

BUSINESS DATATRAK

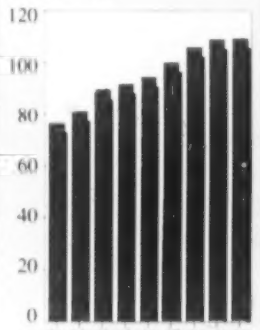
by John Sheridan, chief economic editor

N. A. P. M. business barometer Based on five indicators (employment, inventories, new orders, production, vendor performance)



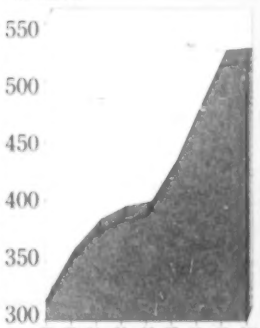
Leading indicators

Manufacturing Production
Index 1987=100



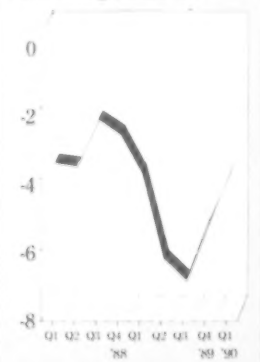
*Current

Manufacturer's unfilled orders
(Millions)



*Current

Domestic liquidity
Percent change, annual rate



Source: Department of Commerce, BEA; Federal Reserve Board.

KEY ECONOMIC TRENDS

Soft landing in stagflation

There is a short-run trade-off between inflation and unemployment. Rising inflation can fuel a decline in the unemployment rate, but unemployment can remain below its long-run natural rate only as long as inflation is accelerating. Eventually, inflation must be brought under control, and this transitional period has traditionally been associated with slow output growth and rising unemployment.

In 1980, inflation persisted long after output dropped. This period of high and rising unemployment, accelerating inflation and no growth became known as stagflation.

While the economy is certainly more healthy than it was 10 years ago, another version of stagflation appears to be upon us. In the Federal Reserve's current soft-landing strategy, the "stag" has been centered in manufacturing, while the "flation" has been primarily in the services-producing sector.

Reducing the inflation rate has different effects on the various sectors of the economy. To date, manufacturers have had to bear the brunt of the slow-growth environment. As one manufacturing economist puts it, "Autos and appliances are the whipping boys in controlling inflation."

One factor generating optimism with regard to the auto industry's long-run outlook is the relatively high age of cars currently on the road. Moreover, demand is expected to pick up when those who finally achieve some equity after paying off most of the now standard five-year loans begin to trade in for new cars.

The pace of economic activity remains below potential, but the deterioration has stopped and the chances of a near-term recession seem slim.

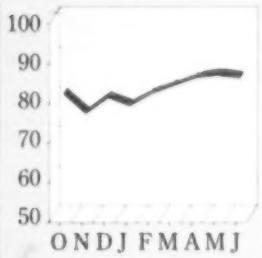
Indicators are consistent with continued moderate growth. In May, operating rates for the nation's factories, mines and utilities rose slightly to 83.6%. May data also showed slight increases in industrial production (see chart) and capacity utilization.

The Federal Reserve reported that a rebound in auto production was the primary impetus behind an increase in factory output, up 0.6% in May. Manufacturing's unfilled orders, as reported by the Commerce Department, are also continuing to rise (see chart).

The best news, however, is that prospects for a reduction in inflation appear inevitable. Domestic liquidity, as calculated by

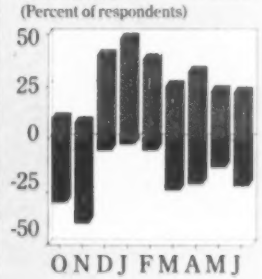
Steel

Operating rates



Inventories
(months supply on hand)

Demand (Steel Service Centers)
(Percent of respondents)



Demand (NAPM)

Source: Steel Service Center Institute
NAPM Steel Buyers Committee

dividing the M2 money supply by the U.S. gross national product, has been falling since mid-1987. Federal Reserve monetary policy eased somewhat in mid-1989, stimulating a continuation of economic growth. This monetary change, however, is not expected to ignite any overabundance of demand, since the level of money in the economy continues to shrink (see chart). Therefore, prices should continue to moderate.

Inflation hawks are eagerly citing the price rise reported by purchasing managers as a sign of an inflation turning point. Lean inventories and lengthening leadtimes are stimulating some price hikes. Unless soft landing turns to boom, the current disequilibrium is only temporary.

METALS SCENE

Steel still creeping along

Steel exports in the first quarter are off 4.6% from the year-ago period. Imports performed even worse, down over 15% after the first 3 months. Utilization rates have remained above the 85% level since late January, with production of raw steel, as reported by the American Iron and Steel Institute, rising to 8.5 million tons in May.

The WEFA Group anticipates steel production to gravitate toward 94 million tons in 1990, assuming utilization rates stay above 85% and the crude-to- finished steel yield factor remains near 84%. Steel shipments, in turn, should near 82 million tons for the year. If WEFA's forecast holds true, shipments would be down a little over 2% for the year overall, with production declining 3%.

Data through June supports the belief that the steel industry is simply creeping along. While receipts of steel from domestic producers to the construction sector are up significantly versus last year, shipments to the other three major steel consuming markets is down. Though no major improvement is seen in the machinery sector, industry analysts expect auto builds and service center activity to be better in the second and third quarters than it was in the first, stimulating a pickup in new steel orders from these sectors.

The Steel Service Center Institute (SSCI), Cleveland, reported that May shipping rates rose slightly for the $24 billion dollar service center industry. Inventories also edged down, and given optimism that volume will remain strong through the summer and fall, some inventory build seems necessary.

A broad base of products is currently fueling the service center's shipping rate advance, including carbon plate, carbon bars, carbon tubing, stainless and structurals. Alloy shipments remain flat, but carbon flat rolled has declined some from its year-ago level.

Import prices
(Compared to domestic)

Steel buyers
ABOVE 54%
SAME 27%
SLIGHTLY BELOW 19%
SUBSTANTIALLY BELOW 0%
SERVICE CENTERS (carbon)
ABOVE 2%
SAME 79%
5-10% BELOW 17%
11-20% BELOW 2%
OVER 20% BELOW 0%

Platinum demand steadily rising

Demand in the United States for platinum group metals (PGM) is forecast by the Freedonia Group, Cleveland, to increase 3.7% a year over the next 5 years. Palladium and platinum are expected to experience growth of 3.6% annually through 1994. Their abundance, as well as desirable characteristics in terms of industrial applications, will allow them to account for over 92% of total PGM demand.

While other PGM's constitute a small percentage of total demand, they will easily represent the areas of greatest growth. Applications in investment metals and pollution control catalysts appear to possess the greatest possibilities.

The market increasing PGM consumption fastest could be petroleum, due to the perpetual desire to use cleaner unleaded gasoline.

REGIONAL PERSPECTIVE

Consumer prices

At the national level, the consumer price index (CPI) reported May prices to be 4.4% above those of a year earlier. How accurate a measure of inflation is this? Designers of the CPI created a less than perfect measurement of inflation for two reasons. First, the consumer price index represents a fixed basket of goods. If a person can substitute a less costly item that is not accounted for in the index, the cost of living has not deteriorated. Second, quality improvements are usually accompanied by a price increase, but is this inflation? The consumer price index thinks so.

Another problem with reviewing the national number, however, is that price movements in the region where you work and live could vary greatly from those representing the nation overall. For instance, May consumer prices in Chicago, New York, Washington D.C., Philadelphia and Boston were at least 5% higher than they were just one year ago.

Consumer Prices

Percent change from May

Chicago	5.2
Los Angeles	4.9
New York	5.4
Philadelphia	5.2
San Francisco	3.6
Baltimore	3.9
Boston	5.0
Cleveland	4.3
Miami	4.5
St. Louis	4.3
Washington D.C.	5.4

Source: U.S. Dept. of Labor

Employment growth

During the current expansion, four regions have spearheaded the attack. Businesses in the New England, far west, southeast and southwest regions prospered during much of the 1980s. However, by 1988, the data was beginning to report a shift in performance.

The U.S. Department of Commerce estimates that job growth will continue strong in the sunbelt. This region, stretching from the southeast to the southwest, could experience employment gains of 15% by the turn of the century.

The region where business activity is anticipated to be most robust— California. One of every six new jobs, between now and the turn of the century, will be located in California. The Rocky Mountain region is also expected to present solid employment opportunities through the year 2000.

Interestingly, the Commerce Department study reports job growth advancing over 10% in each region over the next decade. This, despite the fact that the national rate of growth in employment will be slower in the coming decade than it was over the previous 10 years. Surprisingly, the performance between each region is also supposed to be less varied.

Industry hiring plans

Continued caution is being signaled by U.S. businesses with regard to hiring plans for the third quarter. Manpower Inc., Milwaukee, polled over 15,000 companies across the nation and found that 27% intend to increase their workforce, while 8% are planning staff reductions.

The survey suggests that job market conditions depend drastically on what part of the country you reside in. Manpower President Mitchell S. Fromstein stated, "While the U.S. trends as a whole show continuing softness in hiring plans, the indications are highly disparate on a regional basis with surprising strength in the midwest and southwest and very visible weakness in the northeast."

Industry hiring plans

Percent Increasing employment

	National average	Mid-west	West	South	North-east
Mining	19	8	16	24	0
Construction	37	51	31	31	32
Manufacturing					
Duralbe goods	26	29	25	27	20
Nondurable goods	26	29	30	26	22
Transportation & Public Utilites	23	23	24	26	17
Wholesase & Retail Trade	29	34	33	28	23
Finance, Insurance & Real estate	19	25	23	18	10
Education	25	27	30	27	15
Services	28	32	28	26	24
Public Administration	28	30	30	29	20

Source: Manpower Inc.

Employment growth

Percent change

	1979 -1988	1988 -2000
U.S.	18.7%	14.3%
New England	24.9	12.3
Mideast	16.0	11.0
Great Lakes	8.0	11.8
Plains	11.2	11.8
Southeast	24.2	14.9
Southwest	21.9	15.2
Rocky Mountain	16.9	17.0
Far West	27.1	20.8

Source: U.S. Dept. of Commerce

CURRENT PRICES

Inflation lingering

The rate of inflation for finished goods has been tamed, reflecting lower material input costs. Labor cost pressures and a moderate rebound in demand, however, are working to inhibit further reductions.

The latest Producer Price Index release shows finished goods moving up 0.3% from April to May, with the year-to-year change coming in at 3.1%. The continued retreat in the cost of energy goods, which has fallen for four consecutive months, remains the major force tempering price pressures at this level.

The recent pickup in industrial activity might send intermediate and crude material prices slightly higher, but only for a short time. There are still ample sectors of weakness in the economy, which will stall any enduring price rise this year.

While data suggesting a Fed ease is increasing, any such ease will be slight. Warning: if the economy's current soft landing turns into a touch-and-go take off, inflation would rocket upwards, given the lean inventories in manufacturing.

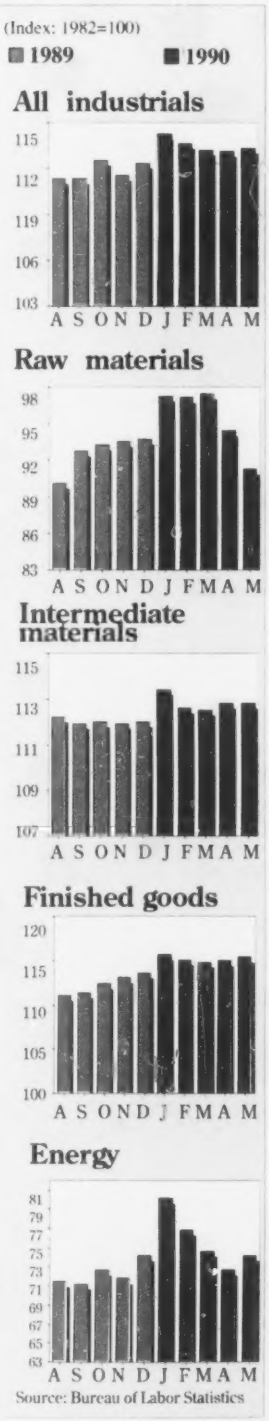
With consumers seemingly more cautious in their spending, a Fed ease seems inevitable if the economy is to steer clear of recession. The concern in this scenario is that restarting the economy may create some temporary market imbalances, traditionally associated with rising prices. Neutralizing potential supply [illegible] demand bottlenecks—at least for petrochemicals, plastic resins, paperboard, boxes, and copper—are the significant additions to capacity these industries will have by year-end.

This month's breakdown

Index 1982=100

	Latest level	% change from: month ago	year ago
Bearings	130.5	0.2	5.0
Bolts, nuts, etc.	116.1	0.0	4.3
Chemicals, inorganic	111.6	0.1	3.5
Chemicals, organic	109.7	0.5	-9.1
Concrete products	113.3	0.5	2.3
Corrugated cartoons	109.6	-0.8	-2.9
Cutting tools, small	113.0	0.0	2.8
Electrical lamps (bulbs)	129.8	-0.5	4.8
Electronic components	118.1	-0.3	1.0
Fans and blowers	122.9	0.1	4.5
Foundry and forge products	116.9	0.0	2.2
Fuel oil (residual)	50.0	-3.5	1.2
Furniture, commercial	133.3	0.5	2.3
Gasoline	71.5	-2.7	-7.0
Glass, flat	108.2	0.4	-1.9
Glass containers	120.5	0.4	3.5
Gypsum products	107.1	-0.6	3.2
Hand tools	134.5	0.2	5.7
Hand tools, power driven	120.8	0.3	4.4
Industrial furnaces	126.4	0.0	1.9
Integrating and measuring instruments	126.3	0.0	6.9
Internal combustion engines	117.8	0.0	3.7
Lubricating oil	115.0	-0.4	7.4
Lumber millwork	130.7	0.1	2.1
Material handling equipment	114.9	0.4	3.3
Metal containers	114.3	-0.5	2.7
Metal mill shapes (nonferrous)	130.8	0.3	-6.2
Metal tanks	114.6	0.6	3.0
Metalworking machines	122.7	-0.1	4.2
Motors and generators	133.5	0.9	4.0
Motor trucks	126.9	-2.8	-1.6
Nonferrous metals	133.9	-0.7	-7.4
Office and store equipment	109.9	-0.1	0.9
Paperboard	135.8	-1.5	-4.7
Paper boxes and shipping containers	130.0	-0.5	0.2
Paper office supplies	120.7	-0.1	-1.3
Paint	124.0	-0.1	4.5
Plastic resins	123.6	0.3	-11.6
Precision measuring tools	128.9	0.0	2.9
Pumps and compressors	118.6	0.4	3.3
Refactories	122.2	-0.3	2.2
Rubber belts and belting	119.0	0.0	5.5
Scales and balances	109.0	0.0	2.3
Switchgear	124.2	0.6	4.3
Textiles, synthetic fibers	106.7	0.1	1.6
Textiles, gray fabrics	117.2	-0.1	2.9
Tires and tubes	97.0	-0.3	-1.0
Transformers and power regulations	121.1	0.5	4.0
Welding equipment	127.6	0.7	4.3
Wire and cable	143.5	0.8	-3.2

Industrial prices



Source: Bureau of Labor Statistics

PROCUREMENT

Slowing deliveries

The nation's purchasing executives report that the uptick in economic activity continues, with both the Production and New Orders indexes rising for the fifth consecutive month in June. The persistence of a strengthening economy has caught some off guard, as PW's July Economic Summit suggested it might. The recent moderate acceleration in growth, along with the drawing down of inventories by manufacturers since the second quarter of 1989, has created an environment where the number of commodities in short supply and higher in price are growing.

Elaborating on the June Report on Business, Robert J. Bretz, C.P.M., chairman of the National Association of Purchasing Management's Business Survey Committee said, "The manufacturing economy ended the second quarter with a moderate, but solid, increase in growth. Manufacturers, with relatively low inventories, were somewhat surprised by the growing demand causing Supplier Deliveries to slow for the first time in over a year. Increased strength in New Orders during the second quarter should provide the basis for a continuation of similar growth as we enter the third quarter."

The number of commodities being reported "up" in price rose to 19 in June, compared to 12 in May. However, 20 commodities were reported lower in price, which is three more than the number in May.

After 13 consecutive months of being reported faster, supplier deliveries were slower in June. On the short supply list are bearings, compressors, electric motors, acrylic acid, caustic soda, soda ash and silicon wafers.

Contractor's opportunities abroad

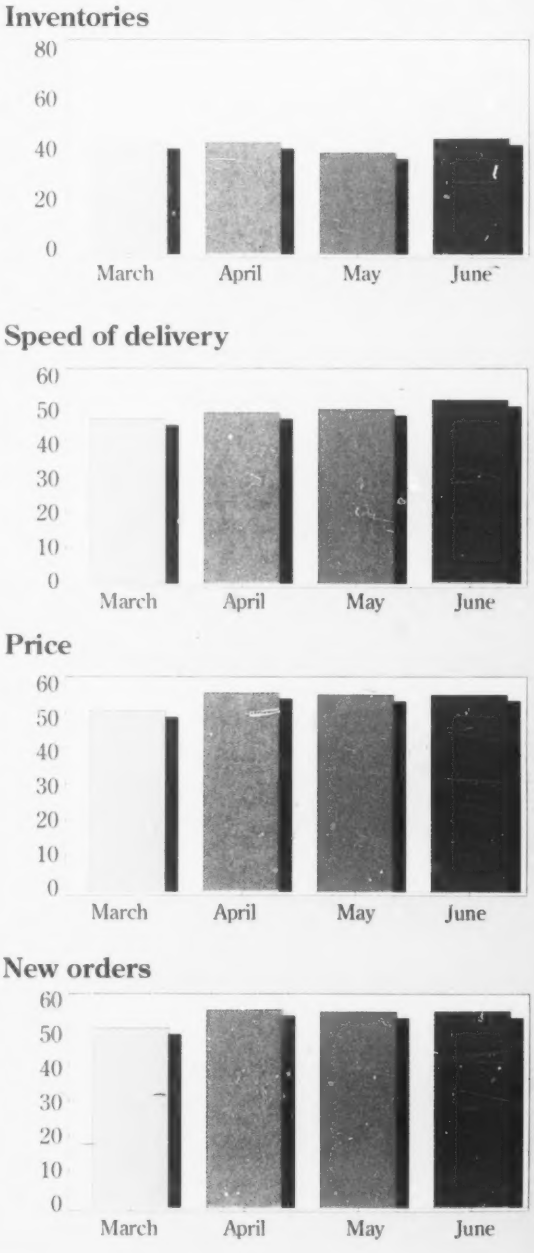
Domestic construction contracts for U.S. builders in 1989 amounted to $147.7 billion, a 16% increase over 1988's figure. Greater growth was observed in the level of foreign contracts, which grew 50% in 1989, to $39.3 billion. In the Engineering News-Record's (ENR) special report of the top 400 contractors, building executives are said to be cautiously optimistic about the future.

While domestic markets slow and become increasingly competitive, foreign markets provide an arena potentially capable of propelling U.S. contractors throughout the 1990s. During the past two years, U.S. contractors competing worldwide have made significant inroads, winning

NAPM procurement trends

(Seasonally adjusted diffusion indexes)

An index where 50 is defined as the neutral level, to the extent a reading is above 50, it represents an expansionary tendency. More particularly, rising inventory prices, and new orders are seen as positive signs of economic growth. A trend towards lower deliveries is similarly interpreted.



most of their new foreign contracts in Europe and the Middle East. Prospects are also looking bright for the Pacific Basin, including Japan, Taiwan, Indonesia and Thailand. The USSR's movement toward a more free-market philosophy also brings possibilities.

So far in 1990, domestic industrial work has held up for the big engineering and construction firms. The medium and small-sized builders, however, are undergoing some rough times, due to the economy's slow-growth environment. Clearly one of the sectors not experiencing a soft-landing is the construction market. Through the first 4 months, ENR reports that new commercial contracts are down 16% from a year ago.

Few general contractors anticipate a rebound in the major nonresidential U.S. commercial building markets until the excesses erected in the 1980s have been more fully absorbed. Domestically, the most promising building markets during the next two years are in educational, medical and government facilities.

Latest spot market prices

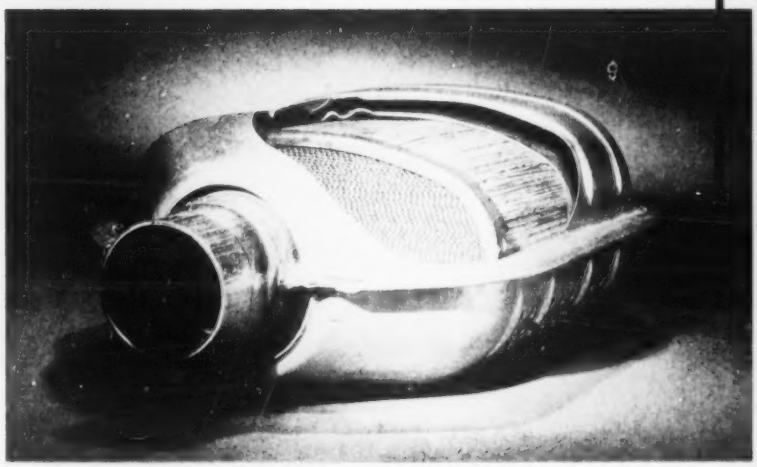
	Latest price	Previous month	Year ago
FERROUS METALS			
Steel, bars, stainless, 303	179.00	179.00	179.00
Steel, bars, HR carbon, 1000 series	18.70	20.20	21.45
Steel, bars, HR carbon alloy, 4100 series	24.50	24.50	24.50
Steel, bars, cold-finished carbon	32.50	32.50	34.50
Steel, plates, carbon., 23.25	23.95	25.20	
Steel, plates, strip millt.	23.60	23.60	23.60
Steel, plates, alloy	34.05	34.25	34.55
Steel, sheets, C.R., class 1	30.65	30.65	29.65
Steel, sheets, HR	23.00	23.00	22.25
Steel, sheets, stainless, 304	124.00	124.00	124.00
Steel, strip, HR carbon	22.10	22.10	22.10
Steel, strip, CR carbon	36.17	37.00	38.30
NONFERROUS METALS			
Aluminum, unalloyed ingot, lb.	0.72	0.75	0.94
Aluminum, alloyed ingot, 355, lb.	0.93	0.93	0.95
Aluminum, secondary ingot, 380, 30K lb. lot	0.75	0.76	0.73
Antimony, lb.	0.81	0.85	1.05
Cadmium, N.Y., dealer, lb.	3.19	4.40	7.10
Copper, electrolytic wire bars, lb.	1.26	1.26	1.18
Copper, cathode, full plate, lb.	1.19	1.24	1.09
Lead, common, N.Y., lb.	0.48	0.45	0.38
Magnesium, pig ingot, (99.8%), lb.	1.63	1.63	1.63
Mercury, 50 fl. lots, N.Y., fl.	280.00	285.00	300.00
Molybdenum, oxide, canned, lb.	3.35	3.35	3.35
Nickel, cathode, dealer, lb.	3.93	4.25	6.98
Platinum, dealer, oz.	489.00	492.00	494.00
Silver, N.Y., troy oz.	4.92	5.05	5.18
Tin, N.Y., dealer, lb.	2.90	3.03	3.32
Zinc, high grade, lb.	0.87	0.87	0.90
Zinc, die casting alloy, No. 3, lb.	0.95	0.95	0.98
PAPER (unit=ton)			
Uncoated book #3 offset	940.00	940.00	1020.00
Watermarked bond	1090.00	1090.00	1095.00
Unbleached kraft paper, grocery bag, 30 lb.	660.00	660.00	680.00
Bleached kraft, grocery bag, 30 lb.	800.00	800.00	810.00
Kraft linerboard, 42 lb., domestic, East	370.00	380.00	380.00
Newsprint, 30 lb., East	535.00	535.00	573.00
TEXTILES			
Acrylic, open-end spun, 1/18, lb.	1.52	1.51	1.46
Carded cotton, ring-spun, 18/1, lb.	1.40	1.45	1.36
Carded cotton, open-end spun, 18/1, lb.	1.42	1.44	1.36
Combed cotton, ring-spun, 18/1, lb.	1.83	1.85	1.90
Nylon, textured, 70/20, lb.	2.70	2.68	2.45
Polyester, 50/50% carded cotton, 30/1, lb.	1.85	1.80	1.70
Polyester, ring-spun, 100%, 18/1, lb.	1.64	1.62	1.58
Rayon, high-wet modulus, lb.	1.36	1.36	1.34
CHEMICALS			
Acrylonitrile, tanks, lb.	0.35	0.35	0.40
Ammonia, anhydrous, tankcars, Gulf Coast, ton	77.00	81.50	123.00
Benzene, petroleum, tanks, Houston, gal.	1.30	1.28	1.50
Caustic soda, 76% solid, 700lb. drums, carload	560.00	560.00	525.00
Cresylic acid (over 25%), tanks, lb.	0.55	0.55	0.55
Formaldehyde, USP, 37%, (12%-15% meth.), tanks, lb.	0.13	0.13	0.11
Glycerine, synthetic, 96%, tanks, lb.	0.74	0.80	0.79
Methanol, syn., tanks, 4000 gals., f.o.b. Gulf Coast plants	0.40	0.40	0.52
Naphthalene, crude, tanks, lb.	0.17	0.17	0.16
Phthalic anhydride, molten, tanks, lb.	0.33	0.33	0.41
Polyethylene resin, low density, liner film grade (market place), lb.	0.52	0.38	0.49
Polypropylene, homopolymer grade (market price), lb.	0.50	0.37	0.46
Polystyrene, general purpose grade (market price), lb.	0.50	0.49	0.59
Polyvinyl choloride, pipe grade, (market price), lb.	0.40	0.37	0.44
Soda ash, light 58%, 100 lb., paper bags	150.00	150.00	135.00
Styrene monomer, 99.6%, tanks, lb.	0.40	0.37	0.49
Sulfur, crude, ex-terminal, Tampa, FL, lt.	128.00	123.00	142.00
Sulfuric acid, 66%, commercial, tanks, ton	69.75	69.89	66.86
Titanium dioxide, anatase, reg., carlots lb.	1.04	1.02	0.95
Xylene, Gulf Coast, spot, barge, gal.	1.03	0.90	0.95
BUILDING MATERIALS			
Lumber, 2x4 fir, mbf, cl	341.56	354.22	326.95
Lumber 2x4 pine, mbf, cl	340.11	333.38	321.47
Plywood, plyform, 3/4", msf, cl	662.78	671.88	570.00
Plywood, 5/8", msf, cl	387.51	392.46	370.22
Cement, type 1, bulk, ton	62.72	62.72	63.88
Sand, concrete, ton, cl	6.91	6.97	7.17
Ready-mix concrete, 3000 psi cu. yd.	48.95	47.95	48.81
Crushed stone, base course, ton, cl	6.30	6.40	5.84
Concrete blocks, sand/gravel, 8"x8"x16", per hundred	84.28	91.64	87.17
Reinforcing bars, grade 60, per cwt.	22.09	21.80	21.32
Asphalt paving AC-20	108.11	108.01	108.53
Concrete sewer pipe, 24", prem. joint., per ft., cl	18.14	18.16	17.90
FUELS			
Crude oil (W. Tx. Int. Cush), bbl.	17.00	17.55	20.40
Diesel (reseller rack, Chi.), gal.	0.49	0.50	0.51
Heating oil No. 2 (N.Y.), gal.	0.48	0.53	0.56
Heating oil No. 2 (Gulf spot), gal.	0.46	0.47	0.48
Fuel oil No. 6 (N.Y.) contract cargo	17.40	18.50	18.75
Gasoline (prem unlded N.Y.), gal.	0.80	0.73	0.78
Gasoline (reg unlded N.Y.), gal.	0.64	0.64	0.59
Kerosine (reseller rack, Chi.), gal.	0.56	0.59	0.60
SCRAP MATERIALS			
Copper, No. 1, brass mill scrap, carload	1.18	1.10	1.03
Copper, No. 1, refineries copper scrap, carload	1.10	1.05	0.98
Copper, No. 2, refineries copper scrap, carload	1.01	0.96	0.89
Copper, No. 1, brass ingot makers', carload	1.06	1.07	0.93
Copper, No. 2, brass ingot makers', carload	0.97	0.98	0.84
Brass, yellow solids, carloads	0.62	0.63	0.57
Aluminum, secondary smelters, old sheet & cast	0.49	0.47	0.43
Aluminum, secondary smelters, mixed clips	0.55	0.52	0.50
Zinc, old, smelters scrap	0.30	0.30	0.35
Zinc, die cast slab, smelters scrap	0.36	0.36	0.37

Sources: Metals Week, American Metal Market, Engineering News-Record(20-city averages), America's Textiles International, Journal of Commerce, Chemical Marketing Reporter, Pulp and Paper Week.

* This page has been revised to better serve you.

Specialty steels compete on performance, price

Allegheny Ludlum's proprietary ALFA IV TM alloy is proposed and being used in tests to replace ceramic substrate in catalytic converters supplied for the automotive aftermarket and being tested as original equipment by auto producers.
Circle 142



Metals buyers are more knowledgeable, more sophisticated, and more likely to visit a steel plant today than at any time in recent memory.

That's the opinion of a marketing executive of a major specialty steel producer who says that metals buyers are more likely to support suppliers within the buyer's organization. Their mutual interest is making sure that products are designed properly and not over designed.

Metals buyers are simply more demanding. That is especially evident as markets for specialty steels—including stainless and nickel-based steels—become more competitive. Driving their choice of stainless steels and alloy steels are environmental concerns, the need for better performance in difficult operating environments, and the need for quality to make extended warranties, like those in the auto industry, possible.

At Carpenter Technology Corp., Reading, PA, a team of experienced metallurgists works with customers to show how CarTech alloys can be used in the aerospace, automotive, petrochemical, energy, electronic, consumer product, industrial, and machining applications either by selecting an existing alloy or modifying an alloy for the application.

For Allegheny Ludlum Corp., Pittsburgh, the growth of the use of stainless steel sheet and strip which accounts for more than 75% of the market has been consistent over the last 30 years. The trend line (see chart) for the entire period was about 4% per year compounded. In the four years ending 1989, compared to the prior five-year average, the growth was 26%, or 6.5% per year, in spite of the fact that the market in 1989 declined by about 7%.

Contributing to this growth, according to Allegheny Ludlum, are a number of factors. The shiny metal's properties of appearance, corrosion resistance, and heat resistance are unmatched.

Since 1975 price competitiveness of stainless steel sheet and strip tells the real story, according to Allegheny Ludlum. The price index of Type 304 stainless, the most popular grade which accounts for about 40% of the total market for stainless steel, has outperformed the Consumer Price Index, the Producer Price Index, the Aluminum BLS Index, and the All Steel BLS Index for the last 20 years.

Two blockbuster technological developments, the Argon-Oxygen Decarburization Process (AOD) and continuous casting, are credited with reducing variable costs by as much as 20% depending on the grade. The AOD process improved the conservation of chromium by saving about 15 pounds of chromium compared with the prior process for every 100 pounds of chromium used, says Allegheny Ludlum.

Continuous casting has made stainless steels available typically at prices competitive with materials such as aluminum, brass, and coated carbon steels.

The next technological development is already on A-L's drawing board in a joint venture with the Austrian Voest Alpine to design, engineer, and build a commercial size prototype thin strip direct casting machine to produce stainless and carbon steel flat products. The process will bypass not only the ingot process but also the hot strip mill process, greatly reducing the need for cold rolling mills and annealing equipment necessitated by the tendency of nickel-based stainless steel's tendency to harden under rolling.

U.S. market growth for stainless steel sheet and strip

Avg. annual period	Avg. annual tons* (in thousands)	Growth 5-yr. periods
1961-65	403	
1966-70	538	33%
1971-75	646	20%
1976-80	781	21%
1981-85	836	7%
1986-89 (4 years)	1,052	26%

* H.R. & C.R. sheet and strip

Source : Allegheny Ludlum

According to Christopher Plummer of The WEFA Group, Bala Cynwyd, PA, developments in the stainless steel industry will include a lot of investment in technology, more consolidation of producing companies, a greater degree of vertical integration, and more technological innovation.

The stainless steel market is showing a little more strength than many expected particularly after last year's volatile pricing brought on by the quadrupling of nickel prices and tripling of chromium prices. Prices of both materials, important ingredients in the stainless and specialty alloy mix, stabilized earlier this year. If 1989 was pretty much an inventory drawdown year of a devaluing product for stainless steel products, the April SSCI data point shows a year-on-year increase in orders—the first such gain in a long time.

Because specialty and stainless producers are more dependent on steel service centers to reach their markets, the service centers were caught in their worst inventory position last year—holding a devaluing commodity.

As one specialty tubing service center executive put it: "Our buyers are specialists who are constantly facing the question: What's my best inventory position? In a volatile market like last year's, we have to move the high cost inventory fast."

Once the market for both stainless steels and specialty nickel-based alloys returned to some semblance of order earlier this year, metals buyers could focus on the problem at hand: finding the best combination of metallurgical properties for quality and performance-based applications. According to Allegheny Ludlum, here's how some markets have grown:

During the last 15 years, the automotive industry has increased the use of stainless steel per vehicle from 10 lb to 70 lb with the total expected to reach 100 lb during this decade. Typical auto applications include bumpers and bumper guards, transmission oil coolers, and disc brake rotor webs.

Should more corrosive fuels such as ethanol and methanol be used in future cars, new fuel line and tank systems would be required.

Energy applications for stainless include flexible stainless steel pipe for offshore oil and gas delivery systems, deep gas wells, or as retrofit service water piping in nuclear power plants. Environment and life cycle costs of equipment in capital intensive industries are major considerations in selecting stainless steels. Applications include nuclear power plants for retrofit service water piping or in pulp and paper plants where the corrosion resistance characteristics of stainless steels are sought.

Aerospace applications require either high temperature or high strength alloys. Nickel-based alloys can be used in applications where temperatures exceed 1,000 F, explains John P. Ziemianski, director of market development and product engineering, Allegheny Ludlum. High strength alloys are precipitation hardened, iron-based alloys that develop extremely high strength through a low temperature heat treatment. They are designed for high strength at ambient temperatures to 800 F and provide good formability in an annealed condition for such applications as springs, valves, tubing, and turbine engine parts.

Aerospace applications for nickel-, chromium-, molybdenum-, and nitrogen-based stainless alloys include engine and turbine components, landing gear equipment, and isolated structural elements.

Carpenter Technology's Project 70® Type 316 stainless steel provided consistent reject-free machining of this transducer housing produced by Digital Machine Co., Warminster, Pa. Circle 141